



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,552	10/07/2004	Martin Bernardus Johannes Leusenkamp	050348-01585	6903

7590 06/14/2005

Kirk D Houser
Eckert Seamans Cherin & Mellott
600 Grant St
44th Floor
Pittsburgh, PA 15219

EXAMINER

FISHMAN, MARINA

ART UNIT	PAPER NUMBER
----------	--------------

2832

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/510,552

Applicant(s)

LEUSENKAMP ET AL.

Examiner

Marina Fishman

Art Unit

2832

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/07/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

General status

1. This is a First Action on the Merits. Claims 1 - 7 are pending in the case and are being examined.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

3. Claims 1 - 7 are objected to because of the following informalities:

In Claim 1, line 1, "Ceramic tube" should be corrected as --A ceramic tube--;

In Claims 2 - 5, "Ceramic tube" should be corrected as --The ceramic tube--;

In Claim 6, "Vacuum circuit breaker" should be corrected as --A vacuum circuit breaker--; and in Claim 7, "Vacuum circuit breaker" should be corrected as --The vacuum circuit breaker--.

In Claims 6 and 7, line 1, "a ceramic tube" should be corrected as --the ceramic tube".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2832

5. Claims 1 – 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In Claim 1, lines 3 and 4 the recitation of "it being possible for..." only indicates possibility of "a metal end cap to be secured..." and therefor is vague and indefinite.

In Claim 2, lines 2 and 3, it is not clear what is meant by "an angle of substantially at most 90°".

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1 - 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Stegmüller [US 4,962,289].

Stegmüller discloses a ceramic tube [5] for use in a vacuum circuit breaker with:

- the ceramic tube [5] being cylindrical in shape with a set length and a set internal diameter, with a cylindrical end face [Figure 3] at each end of the cylinder shape;
- a metal end cap [14a], for which is possible being secure in vacuum tight manner to each cylindrical end face to form a vacuum chamber [Figures 1 - 7], characterized in that the cylindrical end face is shaped in such a manner that, in the

assembled state, it makes contact with the metal end cap [14a], at least as far as the internal diameter of the ceramic tube in order to prevent, in operation of the vacuum circuit breaker, a concentration of electrical field at the triple junction of metal end cap [14a], ceramic tube [5] and vacuum chamber .

Regarding Claim 2, Stegmüller discloses the ceramic tube [5] in which the cylindrical end face on an inner side of the ceramic tube forms an angle of at most 90° with an inner surface of the ceramic tube.

Regarding Claims 3, 5 and 7, Stegmüller discloses the ceramic tube [5] in which the cylindrical end face on an outer side of the ceramic tube forms an angle of at least 90° with an outer surface of the ceramic tube.

Regarding Claims 4 and 6, Stegmüller discloses a vacuum breaker [Abstract] with the ceramic tube [5].

8. Claims 1 - 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Sinnecker [US 4,445,016].

Sinnecker discloses a ceramic tube [5] for use in a vacuum circuit breaker with:

- the ceramic tube [25] being cylindrical in shape with a set length and a set internal diameter, with a cylindrical end face [Figure 2] at each end of the cylinder shape;
- a metal end cap [26], for which is possible being secure in vacuum tight manner to each cylindrical end face to form a vacuum chamber [Abstract], characterized in that the cylindrical

end face is shaped in such a manner that, in the assembled state, it makes contact with the metal end cap [26], at least as far as the internal diameter of the ceramic tube in order to prevent, in operation of the vacuum circuit breaker, a concentration of electrical field at the triple junction of metal end cap [26], ceramic tube [25] and vacuum chamber .

Regarding Claim 2, Sinnecker discloses the ceramic tube [5] in which the cylindrical end face on an inner side of the ceramic tube forms an angle of at most 90° with an inner surface of the ceramic tube.

Regarding Claims 3, 5 and 7, Sinnecker discloses the ceramic tube [5] in which the cylindrical end face on an outer side of the ceramic tube forms an angle of at least 90° with an outer surface of the ceramic tube.

Regarding Claims 4 and 6, Sinnecker discloses a vacuum breaker [Abstract] with the ceramic tube [5].

9. Claims 1 - 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Sinnecker [US 4,445,016].

Sinnecker discloses a ceramic tube [5] for use in a vacuum circuit breaker with:

- the ceramic tube [25] being cylindrical in shape with a set length and a set internal diameter, with a cylindrical end face [Figure 2] at each end of the cylinder shape;
- a metal end cap [26], for which is possible being secure in vacuum tight manner to each cylindrical end face to form a

vacuum chamber [Abstract], characterized in that the cylindrical end face is shaped in such a manner that, in the assembled state, it makes contact with the metal end cap [26], at least as far as the internal diameter of the ceramic tube in order to prevent, in operation of the vacuum circuit breaker, a concentration of electrical field at the triple junction of metal end cap [26], ceramic tube [25] and vacuum chamber .

Regarding Claim 2, Sinnecker discloses the ceramic tube [5] in which the cylindrical end face on an inner side of the ceramic tube forms an angle of at most 90° with an inner surface of the ceramic tube.

Regarding Claims 3, 5 and 7, Sinnecker discloses the ceramic tube [5] in which the cylindrical end face on an outer side of the ceramic tube forms an angle of at least 90° with an outer surface of the ceramic tube.

Regarding Claims 4 and 6, Sinnecker discloses a vacuum breaker [Abstract] with the ceramic tube [5].

10. Claims 1 - 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Siemes AG [DE 9205493U].

Siemes AG [DE 9205493U] discloses a ceramic tube [2] for use in a vacuum circuit breaker with:

- the ceramic tube [2] being cylindrical in shape with a set length and a set internal diameter, with a cylindrical end face [Figure 1] at each end of the cylinder shape;

- a metal end cap [3], for which is possible being secure in vacuum tight manner to each cylindrical end face to form a vacuum chamber, characterized in that the cylindrical end face is shaped in such a manner that, in the assembled state, it makes contact with the metal end cap [3], at least as far as the internal diameter of the ceramic tube in order to prevent, in operation of the vacuum circuit breaker, a concentration of electrical field at the triple junction of metal end cap [3], ceramic tube [2] and vacuum chamber .

Regarding Claim 2, Sinnecker discloses the ceramic tube [2] in which the cylindrical end face on an inner side of the ceramic tube forms an angle of at most 90° with an inner surface of the ceramic tube.

Regarding Claims 3, 5 and 7, Sinnecker discloses the ceramic tube [2] in which the cylindrical end face on an outer side of the ceramic tube forms an angle of at least 90° with an outer surface of the ceramic tube.

Regarding Claims 4 and 6, Sinnecker discloses a vacuum breaker [Abstract] with the ceramic tube [2].

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Banghard et al. [US 6,864,456], Cherry et al. [US 4,216,360] disclose vacuum switches with ceramic tubes. Applicant also should consider these references in response to this office action. Should issue arise concerning the rejection

Art Unit: 2832


presented above, these references may be relied upon in a subsequent action to support the lack of novelty or obviousness of claimed subject matter to one of ordinary skill in the art.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marina Fishman whose telephone number is 571-272-1991. The examiner can normally be reached on 7-5 M-T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on 571-272-1990. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Marina Fishman
June 6, 2005


LINCOLN DONOVAN
PRIMARY EXAMINER
GROUP 2103